



Pacific Northwest
NATIONAL LABORATORY

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Submitted electronically to GC-62@hq.doe.gov

Office of the Assistant General Counsel for
Technology Transfer and Intellectual Property
U.S. Department of Energy
1000 Independence Avenue S.W.
Washington, DC 20585
ATTN: TECHNOLOGY TRANSFER QUESTIONS

Dear Mr. Gottlieb:

**RESPONSE TO NOTICE OF INQUIRY; TECHNOLOGY TRANSFER PRACTICES AT
DEPARTMENT OF ENERGY LABORATORIES (73 FR 72036)**

Thank you for the opportunity to respond to the questions published in the Federal Register. Pacific Northwest National Laboratory (PNNL), managed by Battelle, has a long history of successfully transferring technology developed at PNNL into commercial applications. Notable examples include key technologies that enabled data storage on compact discs, personnel security screening systems deployed globally, significant developments in mass spectrometry instrumentation, and new materials for improved energy storage. Battelle utilized a variety of mechanisms to achieve these commercial successes at PNNL over the last 45 years. These mechanisms include CRADAs, non-Federal WFO agreements, technology assistance, patent licenses, software copyright licenses and agreements funded by private industry under the Use Permit. Thus, Battelle has a unique and experienced perspective on which to base its comments on the various issues and questions posed in the Federal Register. Our comments on these questions are provided in the order the questions appeared in the Federal Register notice.

Existing and Other Agreements

Based upon Battelle's experience implementing various types of agreements with the private sector, the most important overriding considerations are: (a) that the agreements have as much flexibility as possible to be adapted to a particular industrial partner's needs while protecting the taxpayers' interests; and (b) that the approval process for the agreements not be too long and drawn out, with as much local control over the approval process as practical.

The current CRADA agreement used at PNNL, with its modular options, has generally worked well for projects in which the Government provides all or nearly all of the funding needed for laboratory efforts, and the industry partner provides cash or in-kind contributions. Based on our decades of experience with both Use Permit agreements and non-Federal WFO agreements, we have found that

the current non-Federal WFO agreement does not provide the flexibility needed to enhance technology transfer or the level of incentive that we believe necessary to encourage laboratory contractors to engage in industrially funded research. For this reason, we have been working closely with Battelle and other DOE national laboratory staff to develop an alternative contracting mechanism to the current non-Federal WFO agreement that would incorporate key agreement attributes of interest to industry and be available to all DOE laboratories. We urge DOE's continued support for this effort, which we believe will deliver the needed increase in technology transfer by DOE laboratories through increased efficiency in negotiations, flexibility to incorporate needed contractual provisions, accountability for performance, and an ability to implement commercial payment and IP terms tailored to the industry partner's business needs. The new mechanism will be designed to protect the Government's interests and minimize risk to the taxpayer, while allowing national laboratory contractors to assume risk for potential returns associated with activities conducted under this new mechanism. More specific information on this alternative mechanism will be provided to DOE by Battelle when it is further refined.

Best Practices

Best practices that Battelle has observed and suggests for potentially wider scale implementation within the DOE complex are as follows:

Technology Maturation Funding

One of the largest single barriers to technology transfer is moving technologies through the so-called "valley of death" from initial development in a research setting to demonstration in a commercial application. At PNNL, we have used a variety of mechanisms to support technology maturation, including DOE's previously funded Laboratory Technology Research (LTR) partnerships program, reinvestment of income earned from licensing, reinvestment of IR&D recovered on Use Permit work and direct investment by Battelle in furthering the maturation of technology developed at PNNL. We advocate the expansion of all of these mechanisms and are encouraged by the recent implementation of the new DOE EERE Technology Commercialization Fund (TCF) program. Similar to the TCF program, we believe that, so far as possible, technology maturation funding decisions should be made and program management should be performed at the local level, i.e., at the laboratory. Laboratory staff and management have the best view of the potential for a technology maturation effort to actually result in a successful technology transfer. The laboratories can be held accountable for the results that are achieved with the funds through periodic reviews and reporting to DOE.

A specific suggestion for enhancing technology maturation funding is that DOE should provide the laboratory contractors with authority to perform Independent Research & Development (IR&D) as an allowable cost. Currently, available Laboratory Directed Research and Development (LDRD) resources are restricted from commercialization objectives. An IR&D program would be a useful addition to help bridge the "valley of death" by maturing technology to the point needed to attract commercial client interest and facilitate technology transfer. The IR&D fund assessment could replace the LDRD assessment on funded work performed for industry clients, thus providing for consistency in reinvestment objectives.

Focused, value-added venture capital investment

Battelle has had extensive experience in recent years interacting and partnering with various venture capital firms at PNNL. Our experience suggests that such interactions are much more productive when the venture fund is focused on commercialization of technologies from particular institutions or geographical areas. Examples include Battelle Ventures, which is focused on investments in technologies derived from laboratories and other facilities operated or co-managed by Battelle, and The University Funds, a fund in formation in the Seattle area which intends to focus on investments in technologies arising from selected universities and other research institutions located in the Western states. A feature of The University Funds that we particularly encourage the DOE to adopt is that a portion of the fund's investment is directly allocated to providing experienced "hands-on" management expertise to the new ventures during the company's formative stages.

Technology assistance programs

We have found that technology assistance programs, in which laboratory personnel are provided with funds for up to one week of their time to assist a small company, are a very effective means of enhancing technology transfer. Projects funded through this mechanism have frequently led to more extensive interactions with the company, including SBIR/STTR projects, CRADAs and technology licenses. Some projects have solved a significant technical problem faced by the company through the provision of PNNL expertise that is not available in the private sector. We support the expansion of technology assistance programs throughout the laboratory complex.

U.S. Competitiveness

Historically, the current U.S. competitiveness provisions of CRADAs and other DOE related agreements have not created many problems in executing agreements at PNNL. However, our interactions with industry outside the U.S. have recently been increasing, particularly in the area of advanced energy technology. Therefore, Battelle generally supports modifying the U.S. competitiveness requirements as described in the Federal Register notice, which provides that a national laboratory contractor may forego imposing a legally binding U.S. competitiveness commitment on licensees having a "substantial presence" in the U.S.

Intellectual Property Rights disposition in Work for Others Agreements

A default position in which national laboratory contractors retain title to IP created by contractor employees at DOE labs while working on behalf of non-federal clients is the best means of ensuring fair access to Federally developed capabilities and enhancing the potential for widespread technology transfer. Battelle has taken this position for many years in managing Use Permit business and has not found it to be a barrier to obtaining such work. In fact, our business for non-Federal sponsors of approximately \$60 million in FY08 exceeds the level of non-Federal WFO conducted at other DOE laboratories.

Allowing the laboratory contractor to retain title ensures that a very significant and potentially blocking patent will not be owned by an industry client that may have only made a relatively minor contribution to the overall effort to develop the technology. At PNNL, all or nearly all of our work for non-Federal clients utilizes capabilities and expertise in which the Federal Government has made significant investment. It does not seem appropriate for an industry partner to be able to control commercialization of this capability based upon a much smaller subsequent investment. In addition,

technology developed for industry clients often has broader applications than the narrow interests of a specific industry client, and thus the laboratory contractor could make those technologies more widely available to others through licensing.

Ownership of inventions by the laboratory contractor in non-Federal WFO agreements would bring these agreements into conformance with the IP terms and conditions of CRADAs (including 100% funds-in CRADAs) thus reducing the prospective partner's confusion between these two mechanisms and the potential incentives for contractors to prefer a CRADA approach. The default position that we advocate (lab contractor retains title) is also similar to that taken by most major research universities in their sponsored research agreements.

Ownership by the Contractor provides more incentive for laboratory staff to diligently pursue and perform work for industry than an approach where ownership of their ideas and developments is transferred to a third party. Finally, IP ownership retention allows laboratory contractors to share any licensing proceeds with laboratory staff under the applicable royalty sharing program, thus encouraging innovation and participation in technology transfer.

It should be noted that the default position described herein would not preclude ownership of laboratory intellectual property by non-Federal clients. Under the Use Permit, Battelle has granted such ownership in selected instances where the work is not seen as being strategic to PNNL or the industrial sponsor was making a major investment. In addition, ownership by the laboratory contractor would not block access by the industry client to the IP. We support a position that national laboratory contractors grant the non-Federal WFO client: (a) a nonexclusive, royalty-free, non-transferrable, non-sublicensable, worldwide license in a field of use with no requirements concerning U.S. manufacturing, Government use rights, and march-in rights; and (b) an option to negotiate an exclusive license in a designated field-of-use. The national laboratories could be granted latitude to negotiate deviations from the default position depending upon the circumstances applicable to a particular WFO agreement.

If the DOE decides to retain the default position of ownership of project IP by non-Federal clients, DOE might consider providing a waiver of that default position in those situations where the laboratory contractor has background IP that is relevant to the execution of the project. In those cases, the contractor would retain rights to foreground IP, and negotiate client access to foreground and background IP through an appropriate license agreement. In our view, this is a less preferable option for DOE to pursue, however, it may represent a suitable alternative for all parties.

Negotiable or Non-negotiable User Agreements

User Agreements have been utilized at PNNL for many years for work conducted at the Environmental & Molecular Sciences Laboratory (EMSL). The vast majority of this work has been conducted on a non-proprietary basis. We are not aware of significant issues arising in the negotiation of these agreements, but support a streamlined non-negotiable agreement as a means of accelerating agreement implementation and maximizing facility usage.

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Other Technology Transfer Issues

Where permissible, the DOE should consider allowing the national laboratory contractor to have more authority to approve and execute technology transfer transactions without the need for case-by-case review by DOE. DOE can provide transactional oversight through periodic reviews of contractor systems, implementation, and performance. Allowing the national laboratory contractor greater latitude in technology transfer agreement negotiation and implementation would speed transaction time and lower the cost of administering these activities; thereby enhancing technology transfer and associated benefits to U.S. taxpayers and our economy.

If you have any questions regarding our comments, please contact Ms. Cheryl Cejka, Director, Technology Commercialization. Ms. Cejka can be reached on (509) 375-3700 or by email at cheryl.cejka@pnl.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "M. H. Schlender".

Michael Kluse (for)
Laboratory Director

MK:CLC:ksg

cc: D. Streit, DOE-HQ
D. Moody, PNSO